

859-2

Dart Aerospace Ltd.

Date: Tuesday, 10/30/2007 2:48:45 PM  
User: Kim Johnston

## Process Sheet

Split 1

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : TUBE ASSEMBLY  
Job Number : 35438  
Estimate Number : 11198  
P.O. Number : N/A Part Number : D3304041  
This Issue : 10/30/2007 S.O. No. : N/A Drawing Number : D3304 REV. B  
Prsht Rev. : NC Project Number : N/A  
First Issue : N/A Type : MACHINED PARTS Drawing Revision : B  
Previous Run : 29825 Material : N/A  
Written By : Due Date : 11/6/2007 Qty: 3 Um: 8 Each  
Checked & Approved By : 48071031  
Comment : Est: C 04.11.17 Step 13 revised KJ/JLM

## Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 M304TR0875W065 SS TUBING



Comment: Qty.: 1.4109 f(s)/Unit Total : 11.2871 f(s)  
Material: AISI 304/316 SS tubing 0.875" x 0.065" wall  
(M304TR0.875W.065)  
Identify for D3304-1  
Batch: 17103090 07/11/08 (8)

2.0 HARDINGE HARDINGE CNC LATHE SMALL



Comment: HARDINGE CNC LATHE SMALL  
Cut blank: 15.75" as per Dwg D3304  
Turn as per Folio FA458 and Dwg D3304  
Identify as D3304-1 07-11-08 (8)

3.0 QC2 INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE 07-11-08 (8)

4.0 QC8 SECOND CHECK



Comment: SECOND CHECK 07-11-08 (8)

5.0 SMALL FAB 1 SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1  
Deburr  
Drill as per Dwg D3304 using drill Jig D3304-T1  
Deburr 07-11-08 (8)

H-11-07-08-08

WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



Date: Tuesday, 10/30/2007 2:48:46 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 35438

Part Number: D3304041

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5 11/10/08 (x3)

7.0

D33045

Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 8.0000 Each(s)

Bracket

Pick:

Qty Part Number Description Batch  
1 D3304-5 Bracket

Batch

B23980

PD 07-11-09 (3)

8.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Weld bracket as per Dwg D3304 and QSI 004

PD 07-11-09 (3)

9.0

QC9 -5

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

QC5 5 11/10/08 (x3)

QC9 07/11/09 (3)

10.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

FL 07/11/12 (3)

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT

M. 07/11/12 (3X)

12.0

BLBS0016

PIP PIN



Comment: Qty.: 1.0000 Each(s)/Unit Total: 8.0000 Each(s)

PIP PIN

Pick:

Qty Part Number Description Batch  
1 BLBS-0016 Pip Pin

Batch

M100726

x3

✓ ml

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Date: Tuesday, 10/30/2007 2:48:46 PM

User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 35438

Part Number: D3304041

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

CBL460

Loop Sleeve



Comment: Qty.: 2.0000 Each(s)/Unit Total : 16.0000 Each(s)

Loop Sleeve

Pick:

Qty	Part Number	Description	Batch
2	CBL-460	Loop Sleeve	M103927

x6 ✓ ml

14.0

CBL1240

Cable



Comment: Qty.: 1.0417 f(s)/Unit Total : 8.3336 f(s)

Cable

Pick: 3.1251

Qty	Part Number	Description	Batch
12.5"	CBL-1240	Cable	M102439

x3 ✓ ml

15.0

SMALL FAB 1

SMALL &amp; MEDIUM FAB RESOURCE 1



Comment: SMALL &amp; MEDIUM FAB RESOURCE 1

Assemble lanyard and pip pin as per Dwg D3304

ml 07/11/12 x3

(P70)

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

7-11-13 (3)

17.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify with P/N and B/N as per Dwg using a permanent fine point marker, then Stock

Location: 57188

7/11/13 (3)

18.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

D 07/11/13


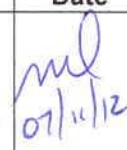
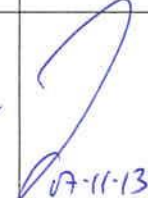
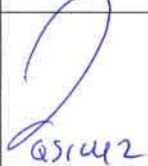

Job Completion



u 07.11.13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3304-041 PAR #: N/A Fault Category: Prod/FAB. ASS. <sup>med 9/5/11</sup> NCR: Yes No DQA: X Date: 01/11/13  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: <u>35438</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
07-11-12	15.0	<del>3</del> cables <del>scrap</del> . Scrap cables were installed through the bolt holes.  R.C! Human error	 AS1042	- I.D. : stock cables for short + long yards. - Replace <del>cables</del> : sleeves. And assemble per Dwg. 3x CBL-460 m103927	 ml 07/11/12	 ml 07-11-13	 AS1042	 07-11-12

NOTE: Date & initial all entries

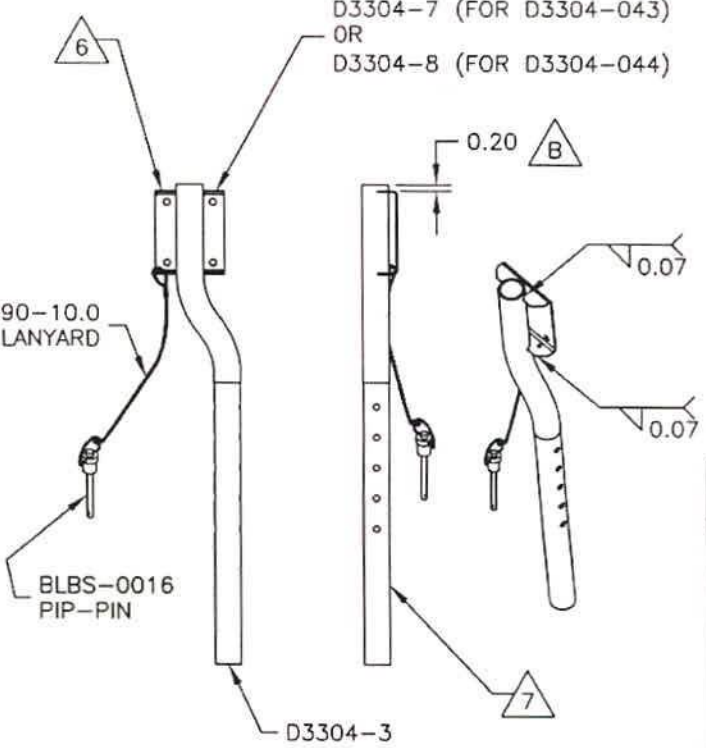




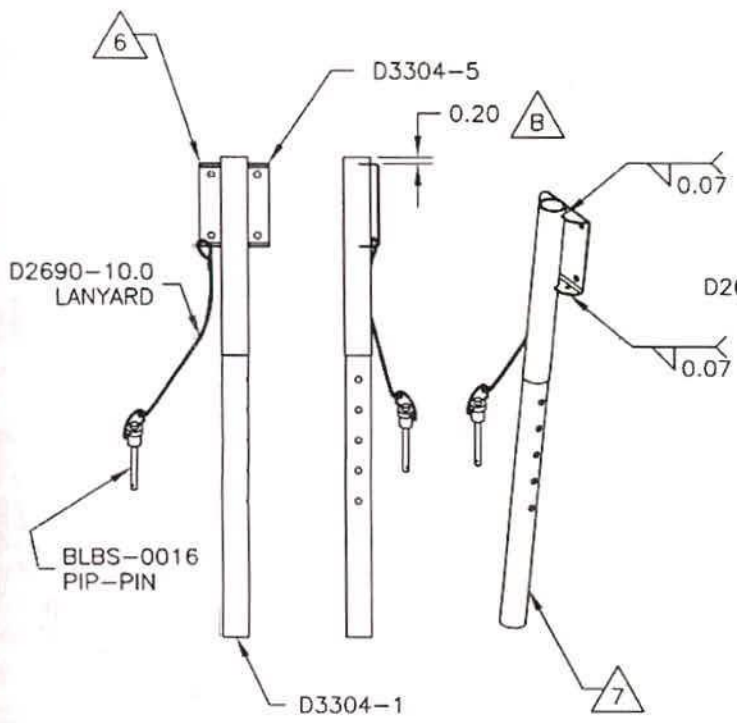
**DART**

DESIGN	RF	DRAWN BY	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>	DRAWING NO. D3304
DATE	05.07.15			TITLE TUBE ASSEMBLY
	A		04.08.18	NEW ISSUE
	B		05.07.15	UPDATE DIMENSIONS; ADD D3304-7/-8
				SCALE 1:6
				REV. B SHEET 1 OF 4

D3304-7 (FOR D3304-043)  
OR  
D3304-8 (FOR D3304-044)



**D3304-044 TUBE ASSEMBLY (SHOWN)  
D3304-043 OPPOSITE**



**D3304-041 TUBE ASSEMBLY**

**D3304-041/-043/-044 NOTES:**

- 1) FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 2) WELD PER DART QSI 004
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) IDENTIFY AS INDICATED USING FINE POINT PERMANENT INK MARKER "TCCA-PDA, DART AEROSPACE LTD, P/N D3304-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"
- 7) IF BEING ASSEMBLED WITH D3303-041, ADD THE FOLLOWING USING A FINE POINT PERMANENT INK MARKER: "TCCA-PDA, DART AEROSPACE LTD, P/N D412-724-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"

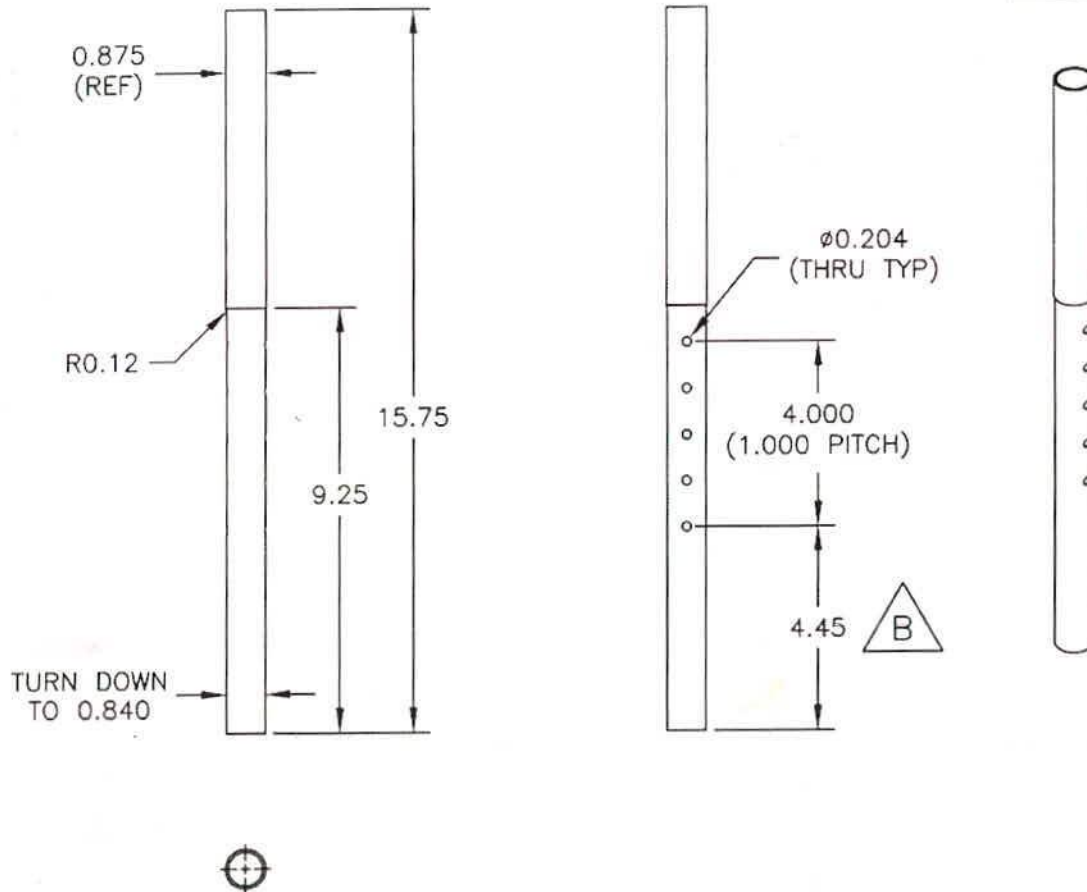
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"5-08-11"



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CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304	REV. B SHEET 2 OF 4
DATE 05.07.15		TITLE TUBE ASSEMBLY	SCALE 1:4

**RELEASED**  
05-08-11 *[Signature]***D3304-1 TUBE****D3304-1 NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE  $\phi 0.875 \times 0.065$  WALL (REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

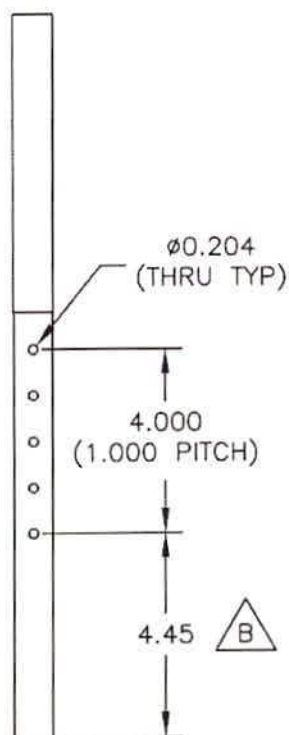
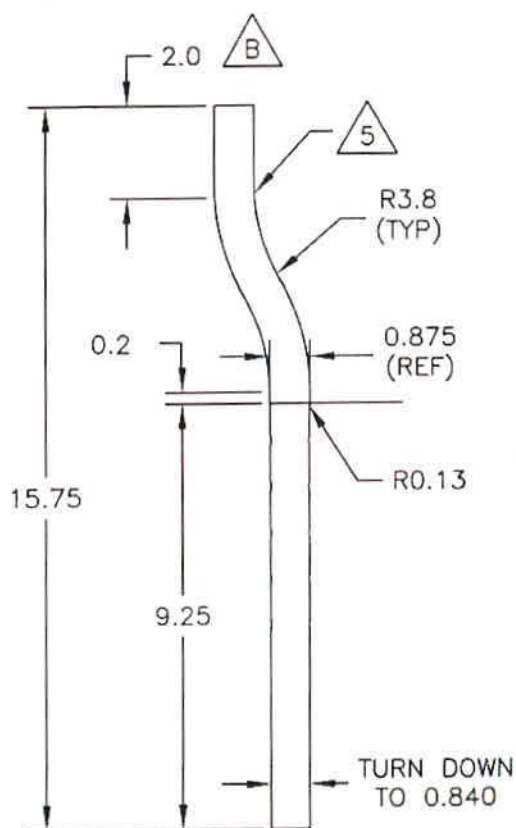
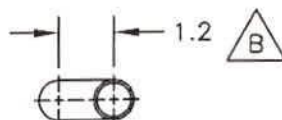
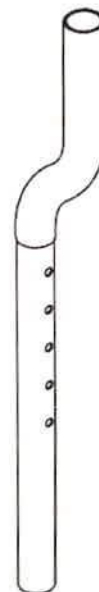
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DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304	REV. B SHEET 3 OF 4
DATE 05.07.15		TITLE TUBE ASSEMBLY	SCALE 1:4

**RELEASED**  
05-08-11 *[Signature]***D3304-3 TUBE****D3304-3 NOTES:**

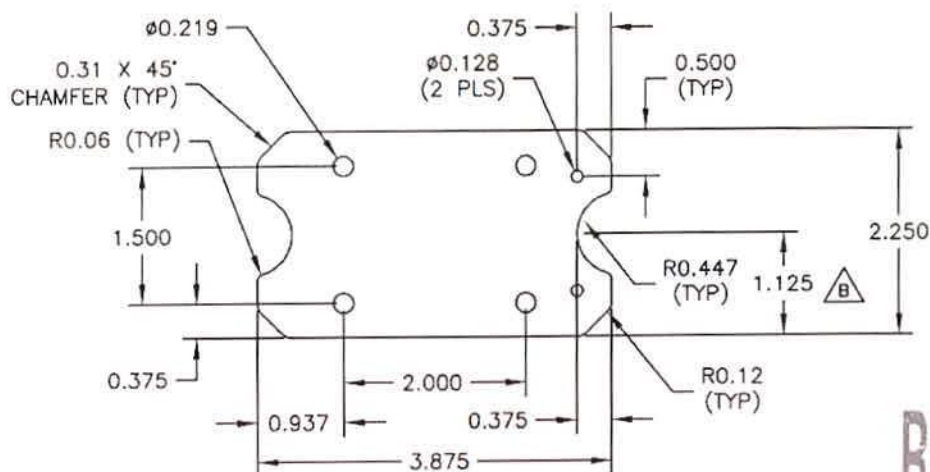
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE  $\phi 0.875 \times 0.065$  WALL  
(REF. DART SPEC M304TRO.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) BEND LINES 9.625, 13.375 DIMENSIONS

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NO. 35438

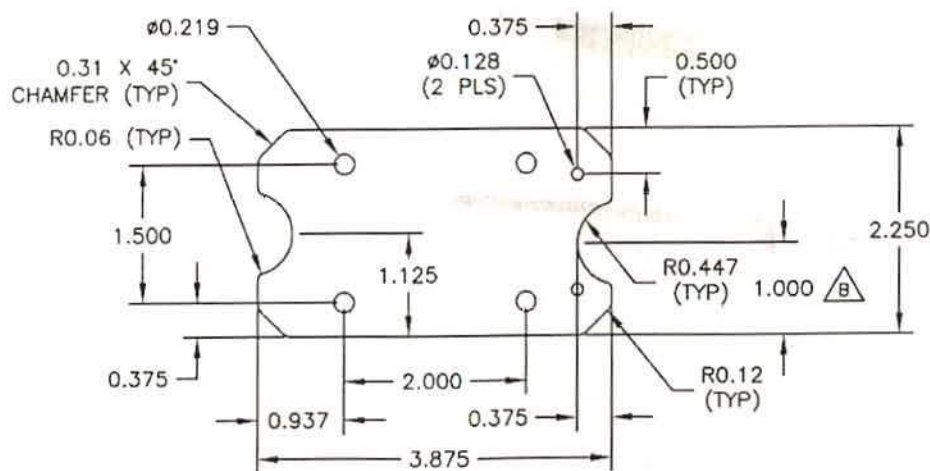
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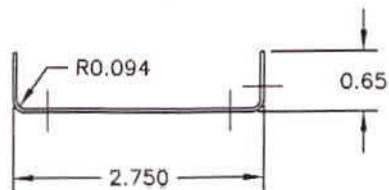




D3304-5 FLAT PATTERN




D.3304-7/-8 FLAT PATTERN



D3304-5/-7 BRACKET  
D3304-8 OPPOSITE

NOTES:

- 1) MATERIAL: AISI 304/316 SS 0.040 THICK SHEET (REF. DART SPEC M304S20GA)  
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED  
3) ALL DIMENSIONS ARE IN INCHES  
4) BREAK ALL SHARP EDGES 0.005 TO 0.015


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